

WHAT IS CLAIMED IS

1. An image display apparatus comprising:  
a display panel; and  
detection means for detecting a state of said  
5 display panel,  
wherein said image display apparatus is  
controlled in accordance with the state of said display  
panel.
- 10 2. The apparatus according to claim 1, wherein the  
state of said display panel is electrically detected.
3. The apparatus according to claim 1, wherein the  
state of said display panel is detected by detecting a  
15 current flowing through said display panel.
4. The apparatus according to claim 1, wherein the  
state of said display panel is detected by detecting a  
current flowing through an electrode arranged on said  
20 display panel.
5. The apparatus according to claim 1, wherein said  
display panel comprises an electron source and an  
acceleration electrode for accelerating electrons  
25 emitted from the electron source, and said detection  
means detects a current flowing through the

acceleration electrode.

6. The apparatus according to claim 1, wherein the state of said display panel is detected by measuring  
5 currents flowing through a plurality of portions on said display panel.

7. The apparatus according to claim 1, wherein said display panel comprises an electron source and a  
10 plurality of acceleration electrodes for accelerating electrons emitted from the electron source, and said detection means individually detects currents flowing through the plurality of acceleration electrodes.

15 8. The apparatus according to claim 1, wherein said display panel comprises an electron source and an acceleration electrode for accelerating electrons emitted from the electron source, and said detection means detects a current flowing through a current path  
20 between the electron source and the acceleration electrode.

9. The apparatus according to claim 1, wherein said display panel comprises an electron source and an  
25 acceleration electrode for accelerating electrons emitted from the electron source, and said detection

means detects a current flowing through a spacer between the electron source and the acceleration electrode.

5 10. The apparatus according to claim 1, wherein said detection means detects a current flowing through a current path arranged outside an image display area within said display panel.

10 11. The apparatus according to claim 1, wherein said display panel comprises an electron source, and the electron source comprises an electron-emitting device for emitting electrons for displaying an image, and an electron-emitting device arranged to detect the state  
15 of said display panel.

12. The apparatus according to claim 1, wherein said display panel comprises an electron source, an acceleration electrode for accelerating electrons  
20 emitted from the electron source, and an electron capture electrode arranged to detect the state of said display panel.

13. The apparatus according to claim 1, wherein said  
25 display panel comprises an electron source, an acceleration electrode for accelerating electrons

emitted from the electron source, and an electron capture electrode arranged to detect the state of said display panel, and the electron source comprises an electron-emitting device for emitting electrons to the  
5 electron capture electrode.

14. The apparatus according to claim 1, wherein said detection means detects the state of said display panel by detecting a potential of said display panel.

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15. The apparatus according to claim 1, wherein said detection means detects the state of said display panel by detecting a potential of an electrode arranged in said display panel.

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16. The apparatus according to claim 1, wherein said display panel comprises an electron-emitting device, and said detection means detects the state of said display panel by detecting a potential of an electrode  
20 electrically isolated from the electron-emitting device.

17. The apparatus according to claim 1, wherein said display panel comprises an electron source for emitting electrons, and said detection means detects the state  
25 of said display panel by detecting a potential of an electrode arranged on the electron source.

18. The apparatus according to claim 1, wherein said display panel comprises an electron source for emitting electrons, and the state of said display panel is  
5 detected while no electron is emitted by the electron source.

19. The apparatus according to claim 1, wherein said display panel comprises an electron source having a  
10 plurality of electron-emitting devices, the electron source emits electrons from respective electron-emitting devices while sequentially switching electron-emitting devices selected from the plurality of electron-emitting devices, and the state of said  
15 display panel is detected when electron-emitting devices to be selected are switched.

20. The apparatus according to claim 1, wherein said detection means detects discharge in said display panel.

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21. The apparatus according to claim 1, wherein said detection means detects a state about discharge in said display panel.

25 22. The apparatus according to claim 1, wherein said detection means detects a state about power consumption

in said display panel.

23. The apparatus according to claim 1, wherein said  
detection means detects a change in state of said  
5 display panel.

24. The apparatus according to claim 1, further  
comprising memory means for storing information  
detected by said detection means.  
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25. The apparatus according to claim 24, wherein said  
memory means stores information about the number of  
abnormalities in said display panel.

15 26. The apparatus according to claim 24, wherein said  
memory means stores information about a generation  
location of an abnormality in said display panel.

27. The apparatus according to claim 24, wherein said  
20 memory means stores information about either one or  
both of a generation time and date and an end time and  
date of an abnormality in said display panel.

28. The apparatus according to claim 1, wherein  
25 control of said image display apparatus in accordance  
with the state of said display panel is transfer of

information by information transfer means.

29. The apparatus according to claim 1, wherein control of said image display apparatus in accordance  
5 with the state of said display panel is control of transferring information for prompting an information receiving person to control said image display apparatus.

10 30. The apparatus according to claim 1, wherein control of said image display apparatus in accordance with the state of said display panel is control of a driving voltage of said display panel.

15 31. The apparatus according to claim 30, wherein said display panel comprises an electron source and an acceleration electrode for accelerating electrons emitted from the electron source, and the voltage to be controlled is a voltage between the electron source and  
20 the acceleration electrode.

32. The apparatus according to claim 30, wherein said display panel comprises an electron source for emitting electrons upon application of a voltage, and the  
25 voltage to be controlled is the voltage for emitting the electrons.

33. The apparatus according to claim 1, wherein said display panel comprises an airtight container for keeping an internal pressure lower than an ambient  
5 pressure, and control of said image display apparatus in accordance with the state of said display panel is control of increasing a vacuum degree in the airtight container.

10 34. The apparatus according to claim 1, wherein said display panel comprises an airtight container for keeping an internal pressure lower than an ambient pressure, and control of said image display apparatus in accordance with the state of said display panel is  
15 control of increasing a vacuum degree in the airtight container by a getter set in the airtight container.

35. The apparatus according to claim 1, wherein control of said image display apparatus in accordance  
20 with the state of said display panel is control of improving an abnormal state of said display panel.

36. The apparatus according to claim 1, wherein control of said image display apparatus in accordance  
25 with the state of said display panel is selected from a plurality of control operations.



37. The apparatus according to claim 1, wherein control of said image display apparatus in accordance with the state of said display panel is selected from a plurality of control operations in accordance with the state of said display panel.

38. The apparatus according to claim 1, wherein said display panel comprises an electron source, and the electron source has a plurality of electron-emitting devices connected in a matrix by a plurality of first wirings and a plurality of second wirings extending in a direction intersecting to the first wirings.

39. The apparatus according to claim 1, wherein said display panel comprises an electron source, and the electron source comprises a cold cathode device.

40. The apparatus according to claim 1, wherein said display panel is kept at a vacuum degree higher than an internal pressure of  $10^{-4}$  Torr when no abnormality occurs.

41. The apparatus according to claim 1, wherein said detection means detects the state of said display panel without destruction said detection means.

42. A television comprising:

a television signal input portion;

a display panel; and

5 detection means for detecting a state of said display panel,

wherein an image display apparatus is controlled in accordance with the state of said display panel.

10 43. A computer display comprising:

an input portion for inputting a signal from a computer;

a display panel; and

15 detection means for detecting a state of said display panel,

wherein an image display apparatus is controlled in accordance with the state of said display panel.

44. A method of controlling an image display

20 apparatus having a display panel, comprising steps of:

detecting a state of said display panel; and

controlling said image display apparatus in accordance with the detected state.